Profile

Messrs Wm Gray Co's S.S. 917

S. S. Bondowoso.

W. Hpl rpt. 15692.

W183-0201

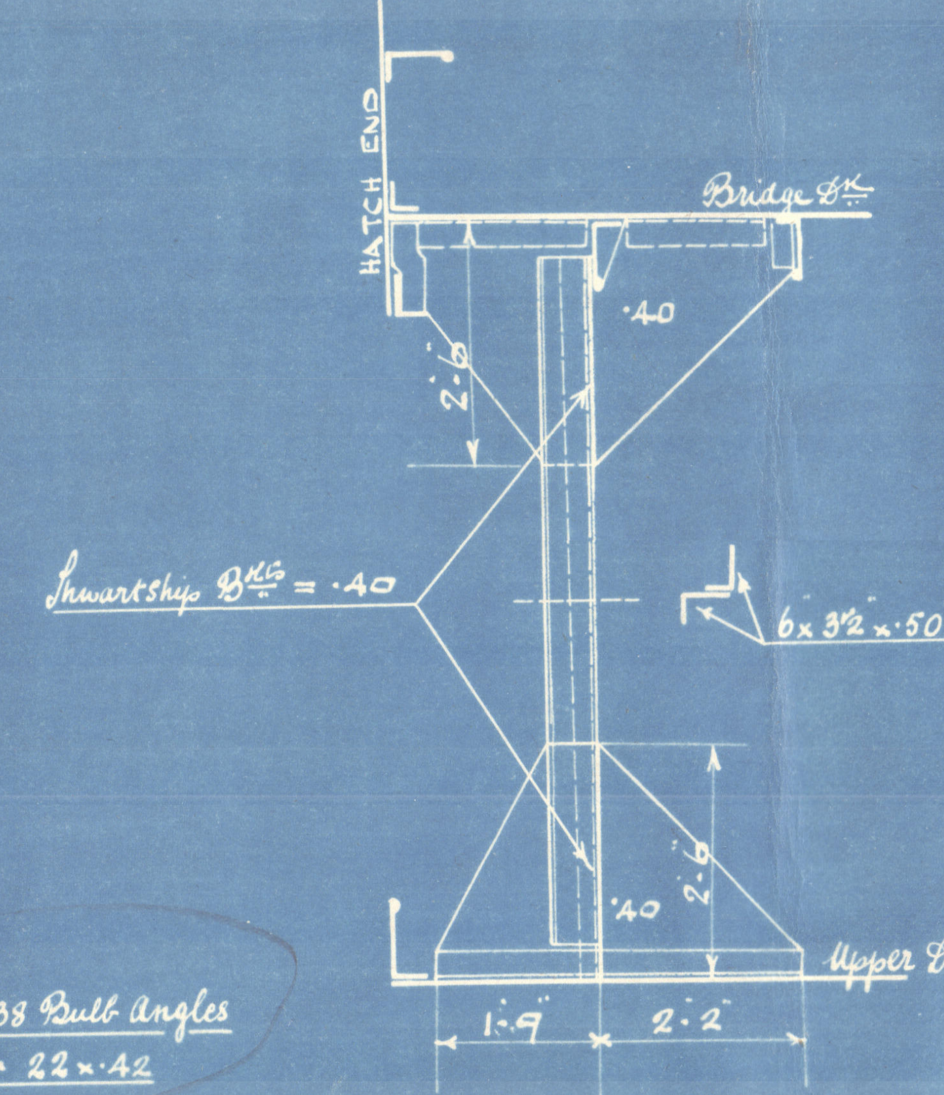
9·4·19.

STANDARD "B" TYPE.

PROFILE.

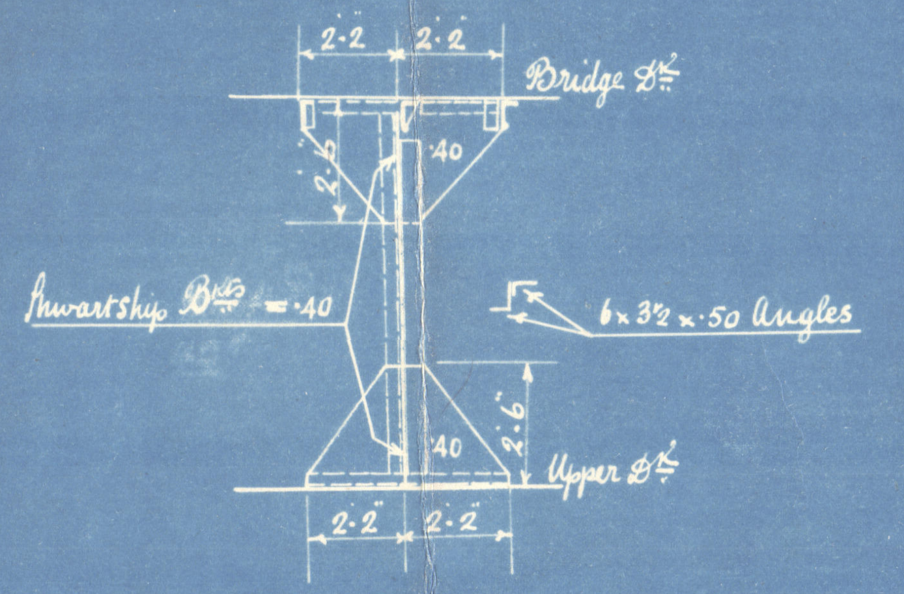
SHEWING AFTER WELL FILLED IN & BRIDGE EXTENDED FROM No. 121 TO 149

SCALE 1/8 = ONE FOOT.



HATCH END
Bridge Dk.
·40
2·6"
Thwartship Bkts. = ·40
6 × 3½ × ·50 angles
2·6"
·40
Upper Dk.
1·9"
2·2"

Sketch of Pillars at Hatch Ends
Scale ½" = one foot



2·2
2·2
Bridge Dk.
·40
2·6"
Thwartship Bkts. = ·40
6 × 3½ × ·50 angles
2·6"
·40
Upper Dk.
2·2
2·2

Elevation of Pillars in way of Hatches
11·9" each side of Centre
Scale ¼" = one foot

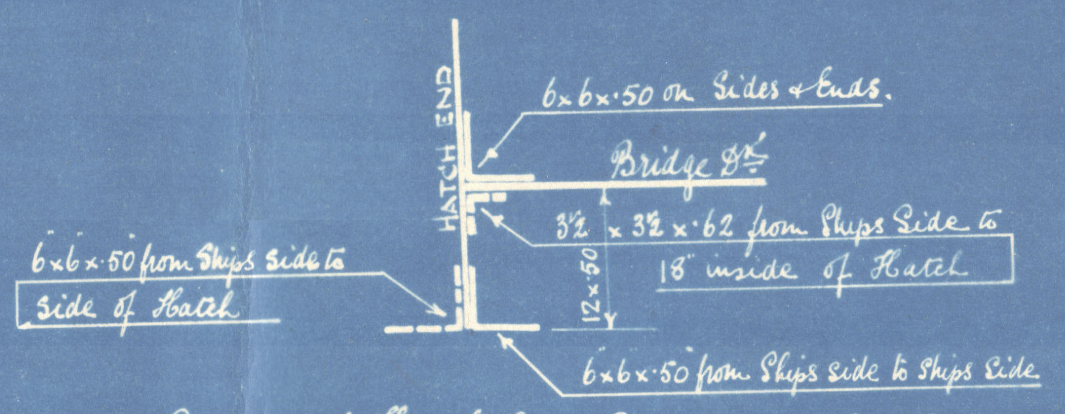
Poop Deck Beams = 8 × 3 × ·38 Bulb angles on every frame. Knees = 22 × ·42

Bridge Deck through Beams = 9 × 3½ × ·52 Bulb angles on every frame. Knees = 22" × ·42
" Half " = 8 × 3 × ·38 " " " " " " "

Note:- all scantlings &c not shown on this plan to be as previously approved

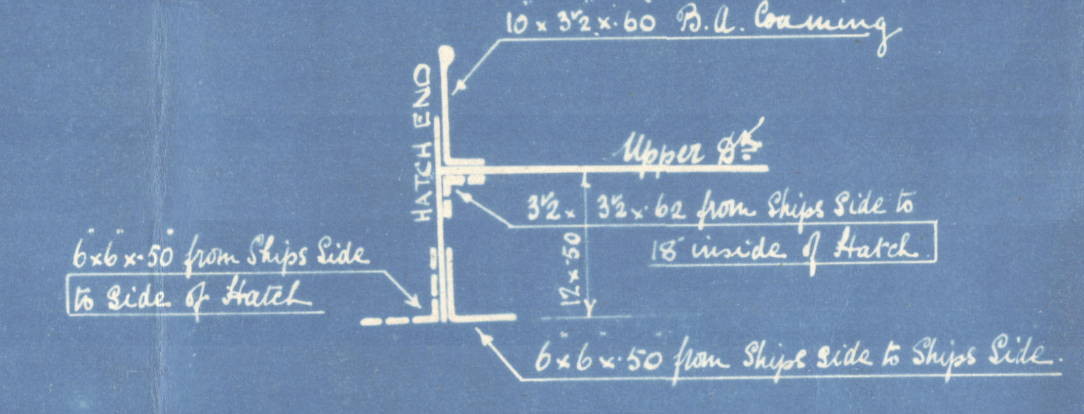
as already approved for 2nd deck hatch end beams of Nos 1, 2 & 5 hatches

Beams marked C = ~~12" × ·50 Bulbs, Single angle 6" × 4 × ·60 Knees 28" × ·54"~~
" " D = ~~11 × ·54 " " " 6 × 4 × ·56 " 27 × ·54~~ as for B.



HATCH END
6 × 6 × ·50 on Sides & Ends.
Bridge Dk.
3½ × 3½ × ·62 from Ships Side to 18" inside of Hatch
12 × ·50
6 × 6 × ·50 from Ships Side to Side of Hatch
6 × 6 × ·50 from Ships Side to Ships Side

Section of Hatch End Beams marked A



10 × 3½ × ·60 B.A. Coaming
HATCH END
Upper Dk.
3½ × 3½ × ·62 from Ships Side to 18" inside of Hatch
12 × ·50
6 × 6 × ·50 from Ships Side to Side of Hatch
6 × 6 × ·50 from Ships Side to Ships Side.

Section of Hatch End Beams marked B

Steering Gear House
2⅞ dia
Large Knee
Reeled Cr. Pillars = 2⅞ dia
Large Knee
Reeled Cr. Pillars = 3¼ dia
Large Knee
Reeled Cr. Pillars 4½ dia
Water Ballast
Supported to surveyors satisfaction
stiffened tunnel under pillars
Shaft Tunnel
Hatch 28·2 × 20·0
Sides = ·44
Ends = ·44
GUSSET A
⌐ 12 flange
Hatch 28·2 × 20·0
10 × 3½ × ·60 B.A. Coaming
GUSSET B
⌐ 12" flange
4 angles 4 × 4 × ·44 or equivalent
Hatch 28·2 × 20·0
GUSSET
4 angles 6 × 6 × ·64
Reeled Cr. Pillars 4½ dia
2⅞ dia
web
3¼ dia
4½ dia
10 × 3½ × ·46 B.angle on sides & ends
Hatch 34·8 × 20·0
Sides = ·44
Ends = ·44
GUSSET A
Hatch Coamings flanged 12" under ½ Beams.
Hatch 34·8 × 20·0
10 × 3½ × ·60 B.A. Coaming.
GUSSET B
Hatch Coamings flanged 12" under ½ Beams
4 angles 5 × 5 × ·40 or equivalent
9 × 3½ × ·50 B.A. Coaming
Hatch 17·4 × 20·0
Sides = ·50
GUSSET C
16 × ·50
Flange 12"
Large Knee in Centre
Rider 12 × ·50
4 angles 6 × 6 × ·60
web
2 W.T. HATCHES 15·2 × 9·0
Large Knee
Cr. Pillars 2⅞ dia & reeled
Large Knee
Reeled Cr. Pillars 3¼ dia
Wash Bulkhead in centre
Q.P.
Q.P.
web
DEEP TANK
See Detail Plan.
Engine Skylight
Galley
Coal Shoot
Stoke Hole
ENGINE & BOILER SPACE
Water Ballast
Hatch 15·2 × 18·0
Sides = ·44
Ends = ·44
3½ × 3½ × ·44
GUSSET
⌐ 8" flange
GUSSET D
Cr. 2⅞ dia
Built Pillar
Reeled Cr. Pillars 2⅞ dia
Hatch 15·2 × 18·0
9 × 3½ × ·50 B.A.
Sides = ·44
GUSSET
⌐ 8" flange
GUSSET D
4 angles 4 × 4 × ·40 or equivalent
Cr. 3¼ dia
Reeled Cr. Pillars 3¼ dia
Hatch 15·2 × 18·0
9 × 3½ × ·50 B.A.
Sides = ·50
GUSSET C
⌐ 10" flange
GUSSET C
4 angles 6 × 6 × ·64 or equivalent
Cr. only 5¾ dia
Built Pillar
Cr. only 5¾ dia
BULKD. NOT W.T.
Reeled Cr. Pillars 5¾ dia
Captain & Chart House.
Saloon etc.
Hatch 34·8 × 20·0
Sides = ·44
Ends = ·44
GUSSET A
Hatch Coamings flanged 12" under ½ Beams
Hatch 34·8 × 20·0
10 × 3½ × ·60 B.A. Coamings
GUSSET B
Hatch Coaming flanged 12" under ½ Beams
4 angles 5 × 5 × ·40 or equivalent
Hatch 34·8 × 20·0
GUSSET.
4 angles 6 × 6 × ·40 or equivalent
6" dia
10 × 3½ × ·46 Bulb Angle on Sides & Ends.
2⅞ dia
Large Knee
2⅞ dia
web
3¼ dia
Cr. only 6" dia
6" dia
Hatch 32·6 × 20·0
Hatch 32·6 × 20·0
GUSSET
web
web
Crew.
3¼ dia
3¼ dia
3" dia
3" dia
3" dia
Water Ballast
0
4
8
12
16
20
24
28
32
36
40
44
48
52
56
60
64
68
72
76
80
84
88
92
96
100
104
108
112
116
120
124
128
132
136
140
144
148
152
156
160
164
168
172
176
180
184
¾ LENGTH
⅗ LENGTH
½ LENGTH
½ LENGTH
⅗ LENGTH
¾ LENGTH

No 5 Bridge Dk. Hatch
5 webs { 13 × ·32 (·34) at centre; 6½ × ·32 (·34) at sides
3½ × 3½ × ·46 double angles top & bottom

No 4 Bridge Dk. Hatch
Cross plates etc. same as at No 2 Hatch.

Scantlings to No 40 Bulkhead
Same as No 46 as previously approved

No 3 Bridge Dk. Hatch
2 webs { 12 × ·32 at Centre; 6 × ·32 at sides
3½ × 3½ × ·46 double angles top & bottom

No 2 Bridge Dk. Hatch
6 webs { 13 × ·34 at centre; 6½ × ·34 at sides
3½ × 3½ × ·46 double angles top & bottom

No 5 Upper & ~~2nd Dk. Hatches~~
5 Webs { ~~17~~ 18 × ·~~35~~ 36 at centre; ~~9½~~ × ·~~35~~ 36 at sides
3½ × 3½ × ·46 double angles top & bottom

2nd deck
5 webs 19 × ·36 at centre
angles 3½ × 3½ × ·46 double.

No 4. 2nd Dk. Hatch
2 Webs { ~~16~~ 17 × ·35 at Centre; 8 × ·35 at sides
3½ × 3½ × ·46 double angles top & bottom

No 4 Upper Dk. Hatch Same as No 2

No 3 Upper & ~~2nd Dk. Hatches.~~
2 Webs { ~~16~~ × ·36 at centre; ~~8~~ × ·36 at Sides.
3½ × 3½ × ·46 double angles top & bottom

2nd deck 2 webs 17 × ·36

No 2 Upper Dk. Hatch
6 Webs { 18 × ·36 at centre; 9 × ·36 at sides
3½ × 3½ × ·46 double angles top & bottom.

2nd deck hatch
6 webs 19 × ·36 at centre
3½ × 3½ × ·46 double angles

917

W. GRAY & CO. (1918) LIMITED
IRON & STEEL
SHIP BUILDERS
MARINE ENGINEERS
AND
REPAIRERS
WEST HARTLEPOOL

917

WS3-0201

GRAYS 917

AMENDED MIDSHIP SECTION

S. S. BONDOWOSO

W. HPL. RPT. Nº 15692.

W183-0200

9·4·19.

STANDARD "B" TYPE

MIDSHIP SECTION.

DIMENSIONS 400'-0" × 52'-3" EX × 31'-0" MLD

SCALE ½" = 1 FOOT

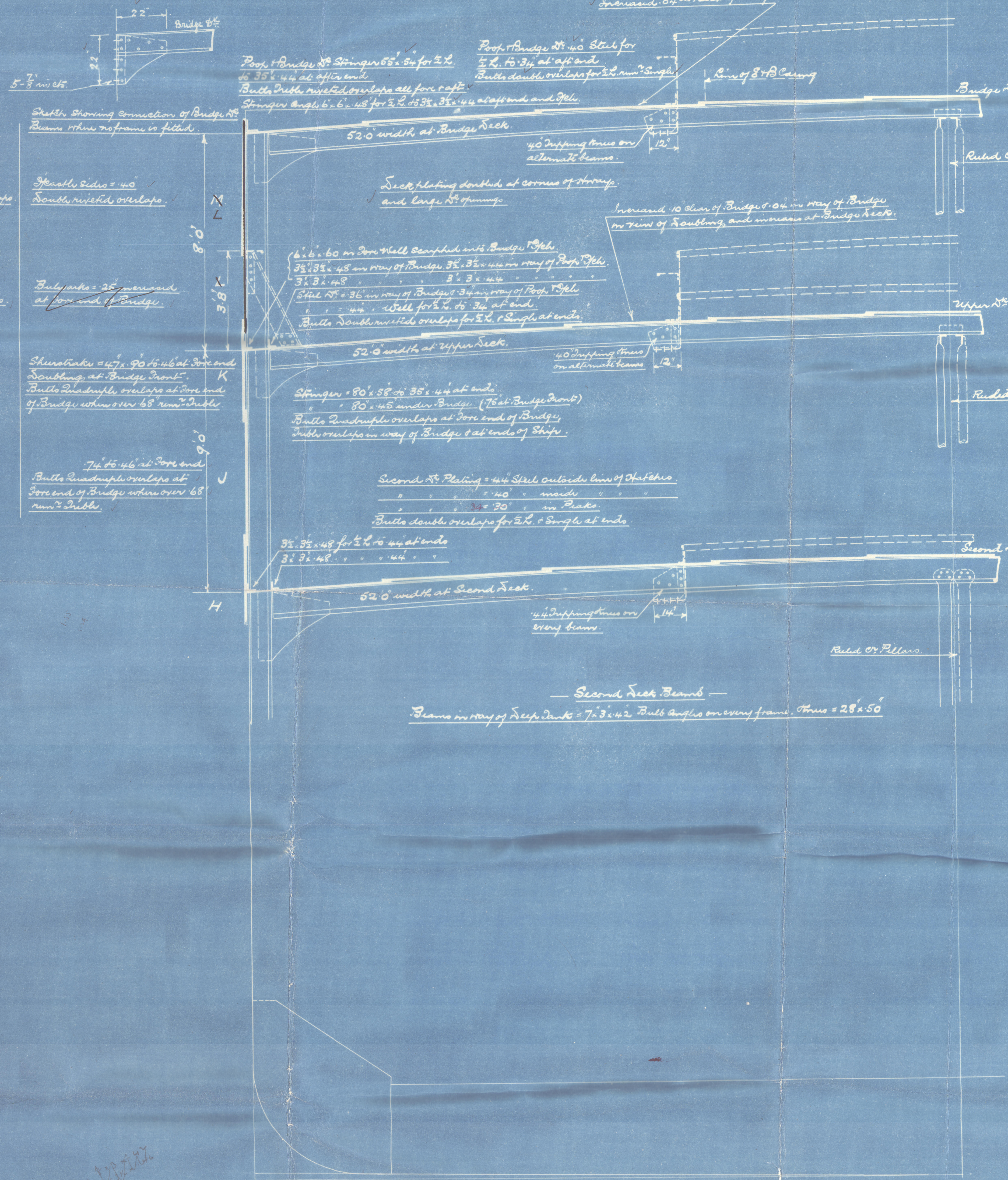
In way of Bridge

·68" to ·46" at aft end
Quadruple to Treble overlaps.

~~·64" to ·46" at aft end~~
~~Quadruple to Treble overlaps.~~

·64" to ·44" at aft end
Treble overlaps.

·64" to ·44" at aft end
Treble overlaps.


22"
Bridge Dk.
22"
5-7/8" rivets.
Sketch showing connection of Bridge Dk. Beams where no frame is fitted.
Fcastle sides = ·40"
Double rivetted overlaps.
~~Bulwarks = ·25" increased at fore end of Bridge.~~
Sheerstrake = ·47" × ·90" to ·46" at fore end
Doubling at Bridge Front.
Butts Quadruple overlaps at fore end of Bridge when over ·68" rem. Treble
·74" to ·46" at fore end
Butts Quadruple overlaps at fore end of Bridge when over ·68" rem. Treble
M
L
8'·0"
3'·8"
K
9'·0"
J
H.
Poop & Bridge Dk. Stringer 55" × ·54" for ½L.
to 35" × ·44" at after end
Butts Treble rivetted overlaps all fore & aft.
Stringer Angle 6" × 6" × ·48" for ½L. to 3½" × 3½" × ·44 at aft end and Fcle.
Poop & Bridge Dk. ·40" Steel for ½L. to ·34" at aft end
Butts double overlaps for ½L. rem. Single
Increased ·04" abreast Openings.
Line of E & B Casing
Bridge Dk.
52'·0" width at Bridge Deck.
·40" Tripping knees on alternate beams.
12"
Ruled Cr. Pillars.
Deck plating doubled at corners of H.ways and large Dk. openings
Increased ·10" clear of Bridge & ·04" in way of Bridge in view of Doubling and increase at Bridge Deck.
6" × 6" × ·60 in Fore Well scarphed into Bridge & Fcle.
3½" × 3½" × ·48 in way of Bridge 3½" × 3½" × ·44 in way of Poop & Fcle.
3" × 3" × ·48 " " " " 3" × 3" × ·44 " " " " "
Steel Dk. = ·36" in way of Bridge & ·34" in way of Poop & Fcle
" " = ·44" . Well for ½L. to ·34" at end
Butts Double rivetted overlaps for ½L. & Single at ends.
Upper Dk.
52'·0" width at Upper Deck.
·40" Tripping knees on alternate beams
12"
Ruled Cr. Pillars.
Stringer = ·80" × ·58" to ·35" × ·44" at ends
" ·80" × ·45 under Bridge (·75 at Bridge Front)
Butts Quadruple overlaps at fore end of Bridge,
Treble overlaps in way of Bridge & at ends of Ship.
Second Dk. Plating = ·44" Steel outside line of Hatches
" " " = ·40" " inside " " "
" " " ·34 = ~~·30"~~ " in Peaks.
Butts double overlaps for ½L. & Single at ends.
3½" × 3½" × ·48 for ½L to ·44 at ends
3" × 3" × ·48 " " " ·44 " "
Second Dk.
52'·0" width at Second Deck.
·44" Tripping knees on every beam.
14"
Ruled Cr. Pillars.
— Second Deck Beams —
Beams in way of Deep Tank = 7" × 3" × ·42" Bulb angles on every frame. Knees = 28" × ·50"

Dimensions	Builders	Lloyds.	
Length between Perps	400·0	400·0	31·0
Breadth extreme	52·3	52·0	3·7 Sank.
Depth moulded	31·0	31·0	27·5
Transverse No.	83·00	83·0	9·0 Sween Dk.
Longitudinal No.	33200·00		18·5 = d
~~x/z~~ in way of Long Bridge	10·25		
" " " Upper Deck	12·90		

L/D

Class 100 A.1 Lloyds

400·0 × 83·0	33200·00	
322·25 × 8·0 × ·75	1933·50	Poop & Bridge Dk.
47·42 × " × "	284·52	Fcle. Dk.
80·0 × " × ·5	320·00	Dk. houses & Casing.

Equip No. = 35738·02

2 Bower Anchors	(Stockless)	63¾	Cwts each
1 " "	"	54½	"
1 Stream "	(Ex Stock)	17½	"
1 Kedge "	"	7½	"
270 fathoms of Stud Chain Cable		2¼	"
90 " " Stream " "		1¼ or 4¾	Steel wire
120 " " Hemp Towline		14" or 5"	" "
90 " " Warps 8" (2 off)			
90 " " " 7" (2 off)			

Main frames for 4 frame spaces at Bridge Front and in way of Hatch ends to Bridge Deck, remainder alternately Upper to Bridge Decks, with Web Frames over Engine and Boiler Space Bulkheads & as shown on Profile.
Bulb angle frames Upper & Fcle Dks alternately abaft Fore Pk. Bulkhead.
Intermediate Frames in way of same 3½ × 3½ × ~~·34~~ ·40 angles scarphed 18" to main frames below
Bulb Angle frames Upper & Poop Dks alternately forward of After Peak Bulkhead
Intermediate frames in way of same 3½ × 3½ × ~~·34~~ ·40 angles ~~not scarphed~~ scarphed to main frames.

abaft the ¾ lth. aft.
Intermediate frames may be dispensed with amidships.

Note:- All scantlings not shewn on this plan to be as previously approved.

CCG
9·4·19.

W. GRAY & CO. (1918) LIMITED
IRON & STEEL
SHIP BUILDERS
MARINE ENGINEERS
AND
REPAIRERS
WEST HARTLEPOOL
WMB 20/3/19

W183-0200

Grays 917.

Midship Section

S.S. Bondowoso

W. Hpl Rpt. 15692.

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W183-0202

S. S. Bondowoso

MIDSHIP SECTION.

See also Amended Midship Section

DIMENSIONS 400'-0" × 52'-0" M^LD × 31'-0" M^LD

TO CLASS 100 A.1 AT LLOYDS REGISTER

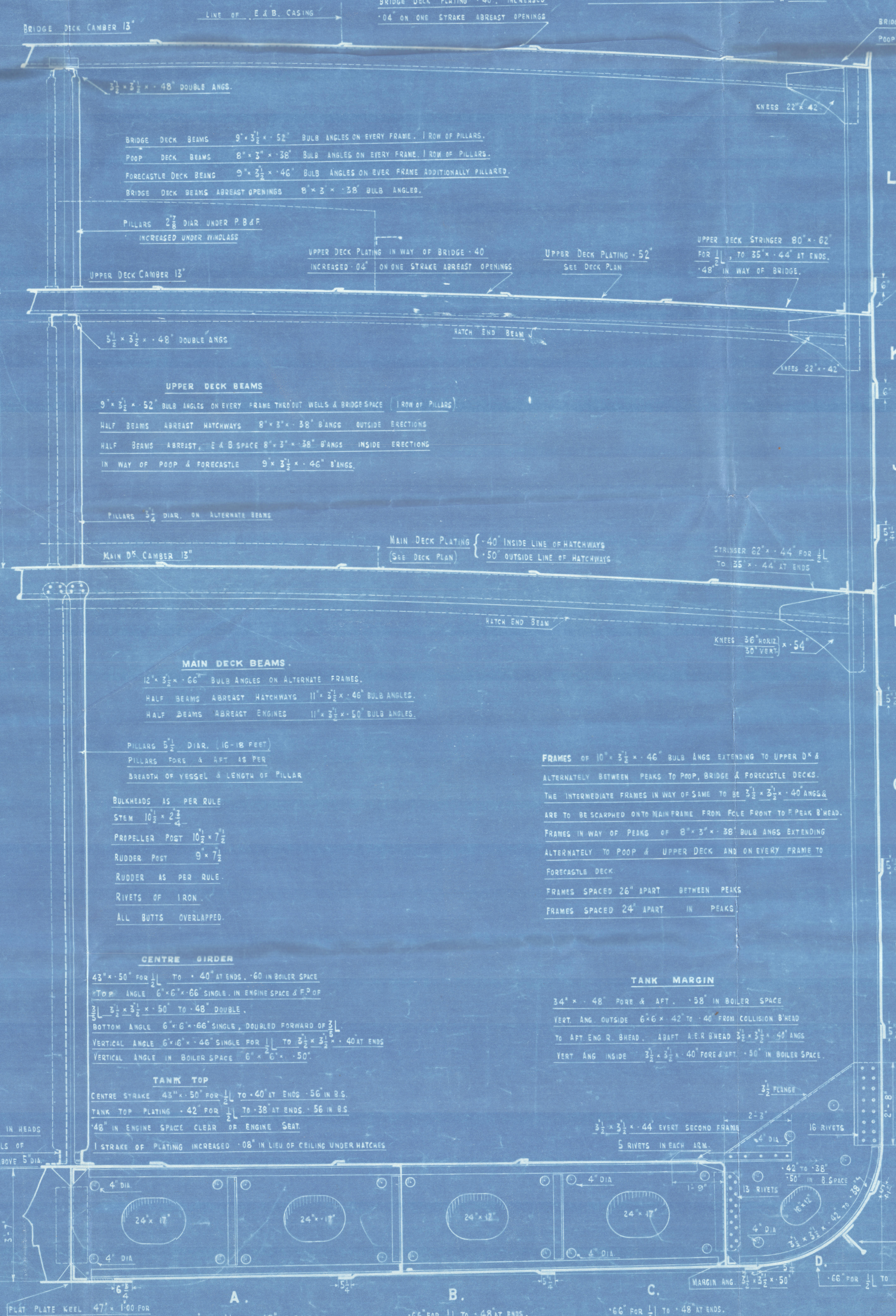
SCALE $\frac{1}{2}$ IN = 1 FT.

TRANSVERSE NUMBER	= (52 + 31)	=	83
LONGITUDINAL NUMBER	= 400(52 + 31)	=	33,200
$\frac{L}{D}$ TO UPPER DECK		=	12·9
$\frac{L}{D}$ TO BRIDGE DECK		=	10·2
d		=	16·4
HULL	= 400(52 + 31)	=	33200
POOP, BRIDGE & F'CLE.	= 200 × 8 × ·75	=	1200
DECKHOUSE	= 31·5 × 8 × ·75	=	189
EQUIPMENT NUMBER		=	34,589

EQUIPMENT.

2	BOWER ANCHORS	60 CWTS.		STOCKLESS
1	" "	$50\frac{1}{2}$ CWTS.		"
1	STREAM "	$16\frac{1}{2}$ "		EX STOCK
1	KEDGE	7 "		"
270 FATHOMS	$2\frac{3}{16}$"	STUD LINK CHAIN CABLE		
90	$1\frac{1}{4}$"	STREAM CHAIN OR	$4\frac{3}{4}$"	S.W. ROPE
120 "	14"	HEMP HAWSER "	$4\frac{3}{4}$"	" " "
2 OFF 90 "	8"	HEMP HAWSERS "	$2\frac{3}{4}$"	" " "
2 OFF 90 "	7"	" WARPS "	$2\frac{1}{2}$"	" " "

Please see Amended plan.


BRIDGE DECK CAMBER 13"
LINE OF E & B. CASING
BRIDGE DECK PLATING ·40". INCREASED ·04" ON ONE STRAKE ABREAST OPENINGS
$3\frac{1}{2}$ × $3\frac{1}{2}$ × ·48" DOUBLE ANGS.
KNEES 22" × ·42
HEIGHT OF TWEEN DECKS = 8'-0"
PILLARS $2\frac{7}{8}$" DIAR. UNDER P. B & F. INCREASED UNDER WINDLASS
UPPER DECK CAMBER 13"
UPPER DECK PLATING IN WAY OF BRIDGE ·40 INCREASED ·04" ON ONE STRAKE ABREAST OPENINGS.
UPPER DECK PLATING ·52" SEE DECK PLAN
UPPER DECK STRINGER 80" × ·62" FOR $\frac{1}{2}$L, TO 35" × ·44" AT ENDS. ·48" IN WAY OF BRIDGE.
$3\frac{1}{2}$ × $3\frac{1}{2}$ × ·48" DOUBLE ANGS
HATCH END BEAM
KNEES 22" × ·42"
HEIGHT OF MAIN TWEEN DECKS = 9'-0"
PILLARS $5\frac{1}{4}$" DIAR. ON ALTERNATE BEAMS
MAIN D^K CAMBER 13"
MAIN DECK PLATING (SEE DECK PLAN) { ·40" INSIDE LINE OF HATCHWAYS ·50" OUTSIDE LINE OF HATCHWAYS
STRINGER 62" × ·44" FOR $\frac{1}{2}$L TO 35" × ·44" AT ENDS
HATCH END BEAM
KNEES 36" HORIZ. 30" VERT. × ·54"
6"
$5\frac{1}{4}$"
4 RIVETS IN HEADS AND HEELS OF PILLARS ABOVE 5" DIA.
$3\frac{1}{2}$ FLANGE
2'-3"
2'-8"
16 RIVETS
$3\frac{1}{2}$ × $3\frac{1}{2}$ × ·44" EVERY SECOND FRAME
5 RIVETS IN EACH ARM.
4" DIA
1'-9"
13 RIVETS
·42" TO ·38" ·50" IN B. SPACE
16" × 12"
$3\frac{1}{2}$ × $3\frac{1}{2}$ × ·42" TO ·38"
24" × 17"
24" × 17"
24" × 12"
24" × 17"
3'-7"
6'-9"
$6\frac{3}{4}$"
MARGIN ANG. $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·50"
6" × 4" × ·50" ANG
10" × ·50" BULB.

BRIDGE DECK BEAMS 9" × $3\frac{1}{2}$ × ·52" BULB ANGLES ON EVERY FRAME. 1 ROW OF PILLARS.
POOP DECK BEAMS 8" × 3" × ·38" BULB ANGLES ON EVERY FRAME. 1 ROW OF PILLARS.
FORECASTLE DECK BEAMS 9" × $3\frac{1}{2}$ × ·46" BULB ANGLES ON EVER FRAME ADDITIONALLY PILLARED.
BRIDGE DECK BEAMS ABREAST OPENINGS 8" × 3" × ·38" BULB ANGLES.

UPPER DECK BEAMS

9" × $3\frac{1}{2}$ × ·52" BULB ANGLES ON EVERY FRAME THRO'OUT WELLS & BRIDGE SPACE (1 ROW OF PILLARS)
HALF BEAMS ABREAST HATCHWAYS 8" × 3" × ·38" B'ANGS OUTSIDE ERECTIONS
HALF BEAMS ABREAST E & B SPACE 8" × 3" × ·38" B'ANGS INSIDE ERECTIONS
IN WAY OF POOP & FORECASTLE 9" × $3\frac{1}{2}$ × ·46" B'ANGS.

MAIN DECK BEAMS.

12" × $3\frac{1}{2}$ × ·66" BULB ANGLES ON ALTERNATE FRAMES.
HALF BEAMS ABREAST HATCHWAYS 11" × $3\frac{1}{2}$ × ·46" BULB ANGLES.
HALF BEAMS ABREAST ENGINES 11" × $3\frac{1}{2}$ × ·50" BULB ANGLES.

PILLARS $5\frac{1}{2}$" DIAR. (16-18 FEET)
PILLARS FORE & AFT AS PER BREADTH OF VESSEL & LENGTH OF PILLAR

BULKHEADS AS PER RULE.
STEM $10\frac{1}{2}$ × $2\frac{3}{4}$
PROPELLER POST $10\frac{1}{2}$ × $7\frac{1}{2}$
RUDDER POST 9" × $7\frac{1}{2}$
RUDDER AS PER RULE.
RIVETS OF IRON.
ALL BUTTS OVERLAPPED.

FRAMES OF 10" × $3\frac{1}{2}$ × ·46" BULB ANGS EXTENDING TO UPPER D^K & ALTERNATELY BETWEEN PEAKS TO POOP, BRIDGE & FORECASTLE DECKS.
THE INTERMEDIATE FRAMES IN WAY OF SAME TO BE $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·40" ANGS & ARE TO BE SCARPHED ONTO MAIN FRAME FROM FC'LE FRONT TO F. PEAK B'HEAD.
FRAMES IN WAY OF PEAKS OF 8" × 3" × ·38" BULB ANGS EXTENDING ALTERNATELY TO POOP & UPPER DECK AND ON EVERY FRAME TO FORECASTLE DECK.
FRAMES SPACED 26" APART BETWEEN PEAKS
FRAMES SPACED 24" APART IN PEAKS.

CENTRE GIRDER

43" × ·50" FOR $\frac{1}{2}$L TO ·40" AT ENDS. ·60 IN BOILER SPACE
TOP ANGLE 6" × 6" × ·66" SINGLE. IN ENGINE SPACE & F.^D OF $\frac{3}{5}$L $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·50" TO ·48" DOUBLE.
BOTTOM ANGLE 6" × 6" × ·66" SINGLE, DOUBLED FORWARD OF $\frac{3}{5}$L.
VERTICAL ANGLE 6" × 6" × ·46" SINGLE FOR $\frac{1}{2}$L TO $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·40" AT ENDS
VERTICAL ANGLE IN BOILER SPACE 6" × 6" × ·50".

TANK TOP

CENTRE STRAKE 43" × ·50" FOR $\frac{1}{2}$L TO ·40" AT ENDS ·56" IN B.S.
TANK TOP PLATING ·42" FOR $\frac{1}{2}$L TO ·38" AT ENDS. ·56 IN B.S.
·48" IN ENGINE SPACE CLEAR OF ENGINE SEAT.
1 STRAKE OF PLATING INCREASED ·08" IN LIEU OF CEILING UNDER HATCHES

TANK MARGIN

34" × ·48" FORE & AFT. ·58" IN BOILER SPACE
VERT. ANG. OUTSIDE 6" × 6" × ·42" TO ·40" FROM COLLISION B'HEAD TO AFT ENG. R. B'HEAD. ABAFT A.E.R B'HEAD $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·40" ANGS
VERT ANG INSIDE $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·40" FORE & AFT. ·50" IN BOILER SPACE.

BRIDGE DECK STRINGER 55" × ·54". ANGLE 6" × 6" × ·48"
POOP & FORECASTLE STRINGER 35" × ·30". ANGLE $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·34". PLATING ·30"

L. BRIDGE SIDE PLATING ·68".
POOP SIDE PLATING ·38".
F'CLE SIDE PLATING ·40".

STRINGER ANGLE 6" × 6" × ·52" FOR $\frac{1}{2}$L TO ·48" AT ENDS
$3\frac{1}{2}$ × $3\frac{1}{2}$ × ·48 IN WAY OF BRIDGE, ·44" IN WAY OF POOP & FC'LE.
SHELL CHOCKS $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·48 IN WAY OF BRIDGE AND ·44" IN WAY OF POOP & FORECASTLE.

K. SHEERSTRAKE 47" × ·90" FOR $\frac{1}{2}$L TO ·46" AT ENDS
·64" IN WAY OF BRIDGE. DOUBLING AT ENDS OF BRIDGE.

J. ·74" FOR $\frac{1}{2}$L TO ·46" AT ENDS.
·64" IN WAY OF BRIDGE.

STRINGER ANGLES $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·48" FOR $\frac{1}{2}$L TO ·44" AT ENDS.

H. ·64" FOR $\frac{1}{2}$L TO ·44" AT ENDS.

G. ·64" FOR $\frac{1}{2}$L TO ·44" AT ENDS.

F. ·64" FOR $\frac{1}{2}$L TO ·44" AT ENDS.

E. ·64" FOR $\frac{1}{2}$L TO ·44" AT ENDS.

D. ·66" FOR $\frac{1}{2}$L TO ·48" AT ENDS.

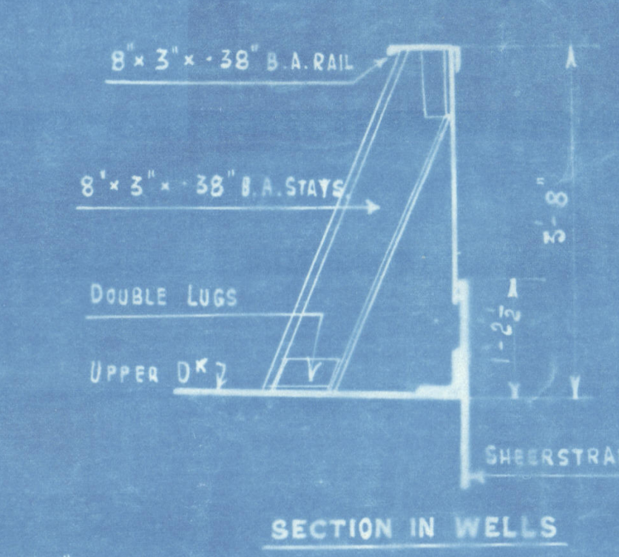
C. ·66" FOR $\frac{1}{2}$L TO ·48" AT ENDS.

B. ·66" FOR $\frac{1}{2}$L TO ·48" AT ENDS.

A. ·66" FOR $\frac{1}{2}$L TO ·48" AT ENDS.

FLAT PLATE KEEL 47" × 1·00 FOR $\frac{3}{5}$L TO ·70" AT ENDS.

NOTE: 3 STRAKES OF PLATING TO HAVE MIDSHIP THICKNESS CARRIED FORWARD TO COLLISION BULKHEAD.

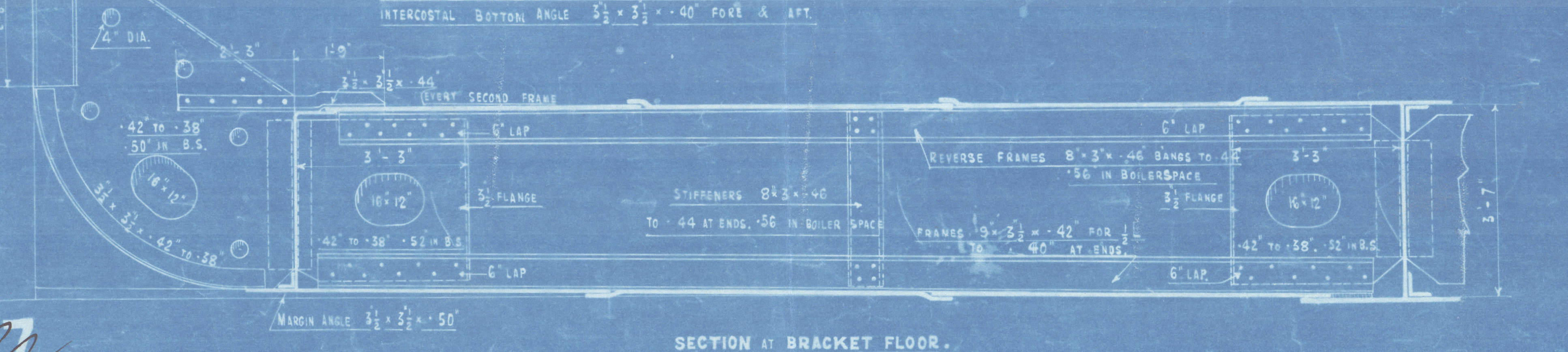

8" × 3" × ·38" B.A. RAIL
8" × 3" × ·38" B.A. STAYS
DOUBLE LUGS
UPPER D^K
SHEERSTRAKE
3'-8"
1'-$2\frac{1}{2}$"

SECTION IN WELLS

COMPLETE LIST OF SECTIONS. USED IN BUILDING THIS VESSEL	
8" × 3"	BULB ANGLE
9" × $3\frac{1}{2}$"	" "
10" × $3\frac{1}{2}$"	" "
12" × $3\frac{1}{2}$"	" "
6" × 6"	ANGLE
6" × $3\frac{1}{2}$"	"
$3\frac{1}{2}$" × $3\frac{1}{2}$"	"
3" × 3"	"

DOUBLE BOTTOM.

FRAMES $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·40" TO $\frac{3}{5}$L FORWARD AND DOUBLED FROM $\frac{3}{5}$L FORWARD TO COLLISION BULKHEAD.
REVERSE FRAMES $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·40" FORE & AFT, DOUBLED IN ENGINE ROOM TO GIRDER OUTSIDE ENGINE SEAT.
REVERSE FRAMES $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·50" IN BOILER SPACE, DOUBLED UNDER BOILER BEARERS.
FLOOR PLATES ·42" FOR $\frac{1}{2}$L TO ·38" AT ENDS, ·50" IN BOILER SPACE. SOLID FLOORS ON EVERY THIRD FRAME, EXCEPT IN ENGINE SPACE, UNDER BOILER BEARERS AND FROM $\frac{3}{5}$L FORWARD WHERE THEY ARE SOLID ON EVERY FRAME.
TANK SIDE BRACKETS ·42" FOR $\frac{1}{2}$L TO ·38" AT ENDS, ·50" IN BOILER SPACE.
INTERCOSTALS ·42" FOR $\frac{1}{2}$L TO ·38" AT ENDS, ·50" IN BOILER SPACE FLANGED TO TANK TOP, EXCEPT IN E & B SPACE AND FORWARD OF $\frac{3}{5}$L.
INTERCOSTAL VERTICAL ANGLE $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·40" THRO'OUT; $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·50" IN BOILER SPACE.
INTERCOSTAL TOP ANGLE 6" × $3\frac{1}{2}$ × ·58" IN ENGINE SPACE AND $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·50" IN BOILER SPACE.
INTERCOSTAL BOTTOM ANGLE $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·40" FORE & AFT.


FLANGED $3\frac{1}{2}$
2'-8"
4" DIA.
2'-3"
1'-9"
$3\frac{1}{2}$ × $3\frac{1}{2}$ × ·44 EVERY SECOND FRAME
6'-9"
·42" TO ·38" ·50" IN B.S.
16" × 12"
$3\frac{1}{2}$ × $3\frac{1}{2}$ × ·42" TO ·38"
6" LAP
3'-3"
16" × 12"
$3\frac{1}{2}$ FLANGE
·42" TO ·38". ·52 IN B.S.
6" LAP
STIFFENERS 8" × 3" × ·46 TO ·44 AT ENDS. ·56 IN BOILER SPACE
REVERSE FRAMES 8" × 3" × ·46 B'ANGS TO ·44 ·56 IN BOILER SPACE
FRAMES 9" × $3\frac{1}{2}$ × ·42" FOR $\frac{1}{2}$L TO ·40" AT ENDS.
6" LAP
3'-3"
16" × 12"
$3\frac{1}{2}$ FLANGE
·42" TO ·38". ·52" IN B.S.
6" LAP.
3'-7"
MARGIN ANGLE $3\frac{1}{2}$ × $3\frac{1}{2}$ × ·50"

SECTION AT BRACKET FLOOR.
SOLID FLOORS ON EVERY 3RD FRAME

917.
~~911.15.17.~~

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W183-0202